

REPORT
ON THE
ATTACK OF CHOLERA,
IN THE
CENTRAL PRISON AT AGRA,
IN 1856.

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Medical Visitor.



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THE SEASON.

During the cold season of 1855-56, there was no rain, and very little cold weather. The atmosphere was hazy during the hot season, with easterly winds, and little of the usual hot westerly wind.

The rainy season commenced with a heavy fall of rain on the 30th May and continued, with a few intervals of clear weather in June, till the present date, 1st September.

The quantity of rain was 37·85 inches. (See Table No. VI.) This is 14 inches more than the average fall at Agra for the year.

During the month of June the air felt oppressively hot, close, and damp.

There was little wind and no thunder, and vegetation was very luxuriant.

On the 6th and 7th July there were severe thunder-storms, with high wind, and heavy rain.

THE PROGRESS OF THE DISEASE.

Cholera was prevalent last year in Bengal, ascending the course of the Ganges to Benares; and during the present hot season, it was very fatal at Gornekpore and on the Nepaulese frontier.

In the earlier part of May, there were more cases than usual in Agra. They were fatal, but not numerous till the 20th, from which date the fatal cases became numerous and the people got alarmed.

The Natives date the commencement of the disease from the 15th Ramzan (21st May).

On the 23rd, the Revd. J. S. Scott was attacked in the Civil Lines.

On the 25th May, a party of suspected dacoits, under trial, were moved from the City to the Tuxal, or old Mint. On that night three of them were attacked with Cholera, and during the following day three more. These cases were sent to the Hospital in the Jail, on the 25th and 26th. Five days after this, viz. on the 30th May, the disease appeared in the Jail. Two cases appeared that day; one on the 3rd June; three on the 4th; and one on the 6th. The disease steadily increased from this date. (See Table No. I.) On the 12th, instructions were given to distribute the prisoners. They occupied extensive open corridors in the gardens at Secundra and the Taj, and an old enclosed house at Shahgunge, and the Tuxal.

There had been one case on the 6th, and another on the 10th, amongst the convalecents at Secundra, before these prisoners were sent out. They remained well for a few days, but on the 16th there were five cases and the numbers rapidly increased till the 21st, when the prisoners were re-called and sent into tents on the Panyah Ghat road.

The convalescents returned to Secundra on the 5th July.

The party of 200 sent to Shaligunge had a few occasional cases during their residence there.

The party of 202 sent to the Tuxal on the 13th was re-called on the 18th June for want of proper accommodation for it and the dacoits, amongst whom there were no fresh cases.

On the 18th, 249 prisoners were sent to a wide corridor in the garden near the Taj, and the party was increased to 717. They were free from disease till the 21st, after which the attacks became numerous, and they were re-called on the 24th, and sent to the Pouyah camp.

The Pouyah camp was commenced on the 21st June, and augmented as tents were procured up to the 4th July, when there were 2,012 prisoners under canvas.

The number of cases gradually increased in this camp. On the 2nd there were twelve cases. The ground was changed, and the following day there was only one, whilst there were ten inside the Jail. The cases again increased in camp, and on the 7th it was moved again. After this date there were only three more cases. The ground was again changed on the 13th, and the prisoners gradually brought back to the Jail. The last party returned on the 22nd July.

During a similar Epidemic of Cholera in 1851, the prisoners were distributed to these old buildings with great advantage in saving them from attacks. During the present year, the prisoners sent to these buildings kept well for three or four days, after which the disease broke out and rapidly increased. This was the case in the camp also, but by frequently changing the ground, the number of attacks was kept down till the Epidemic season passed by.

During the month of June, the disease spread in all directions round Agra, particularly to the south and west. It was severe in Iradutnuggur, Futtelpore Seekree, Furrak, and Bhurtapore.

In July, it extended to Kheraghur, Futtayabad, Pinalut, and Dhoplepore, and across the river to Kundowlee and Ferozabad, Mynpoorie, and Etawah. In August, it continued in Pinalut and Dhoplepore, and extended to Gwalior. (See Table No. II.) It appeared in Muttra in June, and in Jeypore and Dehli in July. In August, it appeared in Meerut, and extended to Roorkee and Saharunpore, and reached Umballah on the 20th. It appeared at Lahore in the middle of August with great virulence, and in Ferozepore on the 19th August. This was in the line of the disease, but it was curious that it appeared at Lahore before it showed itself at Umballah.

In June, the disease prevailed at Hatras and Allygurh.* In July, it appeared in Moradabad and Bareilly, and in August it reached the foot of the Hills near Nynce Tal and in the Deyrah Dhoon. (See Table No. III.)

A few cases appeared amongst the coolies in the bazar at Nynce Tal and amongst the mule drivers at Landour. None of the European residents, at these Hill stations, were affected.

* Several cases had previously appeared at Allygurh, in the beginning of May.

The disease broke out in the City of Agra during a period of intense heat, and after seven months of dry weather. It spread with increased virulence after the first fall of rain, and continued spreading over the country, during the rainy season, at the rate of about four miles a day.

The present Epidemic attack has lasted longer and proved more fatal than the last attack of Cholera, in 1851. (See Table No. IV.)

The attack in 1851 commenced on the 25th July and ceased on the 29th of August. Of the prisoners 7·58 per cent. were attacked, and out of those 30 per cent. died, forming 2·55 on the strength of the prisoners.

The attack this year commenced on the 30th May and lasted till the 19th July. Of the prisoners 14·98 per cent. were attacked, and of these 40·78 per cent. died, forming 6·20 per cent. on the number of prisoners. The greatest number attacked on one day was forty-one on the 26th June, and the greatest number of deaths seventeen on the 20th June.

In 1851, the mortality amongst the life prisoners was very high as they were retained in Jail; there is no marked difference this year in relation to the period of imprisonment—250 or one-half of the life prisoners were sent into camp with the others.

THE DISEASE.

The symptoms of the disease were similar to those in the attack in 1851; viz., a sinking feeling, with burning sensation about the pit of the stomach, nausea, watery vomiting, and purging, with an odour of tainted flesh; cramps, cold, clammy perspirations, blue, livid collapse, pulse gradually becoming more feeble, the intellect remaining clear, but drowsiness progressively increasing, the breathing slow, gasping, intermitting, with longer intervals, till it ceased.

When re-action took place, the uneasiness in the præcordium ceased, and warmth was diffused through the bowels. The stools from being white became slate-coloured, dark-green, brown, and then yellow. The urine began to flow.

In proportion to the duration of collapse was the severity of the low typhoid fever or diarrhœa which followed.

When the disease was checked before collapse there was no fever, but the stools passed from white to dark, muddy brown; or green to yellow.

In the beginning of July, the disease assumed a more periodical type, the exacerbation being most frequent at 3 o'clock in the morning. In these cases the vomiting was less prominent, and the cold, clammy perspirations more profuse.

Towards the end of July there were several cases with white, watery looseness, combined with remittent fever, and great tenderness of the abdomen.

In some cases, the disease commenced with a sudden call to stool with vomiting, soon followed by prostration; but in general there was looseness for some hours before collapse appeared. In some cases there was no vomiting,

and in many the cramps were not prominent. The most violent case of cramps was in an athlete, M. De la Casse, the proprietor of a *Gymnastie Circus*.

In some cases, after the first evacuations, there were no prominent symptoms. The countenance was blue-livid, the eyes shrunk, half open, showing congested eye-balls. The body was bathed in cold perspiration. The breathing was by starts. The patient was indifferent and semi-conscious when not roused, but when roused clear in mind. The voice a broken whisper, and the pulse only felt near the heart.

Whilst in the midst of the Cholera patients in the Hospital on the 1st July, when the sickening odour was very strong, I felt a shock at the pit of the stomach which spread with a cold, creeping, sinking chill through the body and down the extremities. I told the Native Doctor to bring the Quinine bottle, and walking quietly to the end of the Hospital, took a large pinch, and drove off without telling my suspicions, lest it might increase the tendency to panic. I visited the Hospital next day as usual. A few days after, the Revd. Mr. Williams (who heard this case) whilst reading an interesting work was suddenly affected with precisely similar symptoms. He described the feeling as if his inside were dead, and that he had not strength or energy to move from his chair. He had been at the bedside of a Cholera patient about two hours before. He immediately took Quinine and repeated it several times during the night, before the sinking feeling entirely disappeared. Dark motions followed the action of medicine in both cases, with lassitude and loss of appetite.

After visiting the Cholera patients on the 23rd June, as Dr. Farquhar was driving with me to the Thomason Hospital, he complained of nausea. He took a few drops of Ammonia which relieved him. There were several interesting Surgical operations, during which he felt well, but when they were over, the nausea returned, the Ammonia was repeated, and we drove home. The sinking nausea increased, with an uneasy burning feeling at the pit of the stomach and a feeling that his bowels were dead, and inclined to fall out. He took a large dose of Quinine with a little Rhubarb and Magnesia. The uneasy feelings gradually subsided, warmth was restored, and he fell asleep, and awoke feeling well. The motions at first were white, then black, and he felt uncomfortable for two days, but there were no other prominent symptoms of disease.

Dr. Walker, who was indefatigable in his labours in the Hospital, had an attack of looseness in the afternoon of the 5th July for which he took Calomel and Opium. At 3 o'clock next morning, he had copious watery vomiting and purging with prostration, for which he got two of the Cholera Pills with Calomel, and applied a Mustard Poultice to the stomach; this was followed by Quinine, with Rhubarb and Magnesia. At 4 p. m., the vomiting and purging returned, with prostration. The Pills with Calomel and the Quinine were repeated, and there was no return of the symptoms. The stools were very dark, and he was much prostrated for some days.

The proportion of patients in Hospital, and Hospital Attendants, affected by the disease was great. The number of attendants affected in the European Regiment in Cantonments was so great that there was great difficulty in getting men from the bazar to fill their places.

It is the general impression among the Natives that the disease was infectious, and the progress of the disease tends towards that conclusion. If a person, whose body is pre-disposed, come in contact with the person, or excretions, of a Cholera patient, he will be affected, whereas had he not come to this vicinity he would not suffer from the disease.

During the period that Cholera is prevalent, the use of certain medicines, or improper food, will induce the disease without immediate communication with a Cholera patient. Fatigue, depression of spirits, or fear, indigestion, with acidity, looseness, or purging, pre-dispose to an attack.

There are facts that appear to show that the disease is not contagious. There were two Companies from the 30th and 44th Regiments Native Infantry, one at the Camp, and the other at the Jail. There was not a single case of Cholera, during this period, in these Companies. There were four cases of nursing mothers affected with the disease. During the collapse no milk was secreted, but it soon returned on re-action. The children took this milk and were not affected.

The first action of the poison appears to be on the sympathetic or ganglionic nerves, *i. e.*, the nerves which supply the viscera, in the chest and abdomen. It paralyzes them like concussion, prostrating their energy, and disabling the organs supplied by them from performing their natural excreting functions. The lungs, liver, and kidneys are the organs chiefly implicated. The lungs are acted on by a double supply of nerves, by the voluntary as well as the sympathetic. The first comes into action in the gasping breathing, which appears by fits when the patient is roused to sensibility. Paralysis of the sympathetic nerves would prevent or obscure the consciousness of the usual uneasy feelings caused by carbonized blood in the lungs which induces ordinary breathing.

The liver ceases to secrete bile. The effete parts of the blood of which it is formed, are retained, and as they are chiefly carbonaceous, their accumulation aggravates, by crowding, the difficulty of the elimination of carbonic acid from the lungs—as this ordinary duty was previously imperfectly performed in consequence of their paralyzed state. The kidneys cease to secrete urine. The suppression of urine, in ordinary cases, causes delirium and coma in two or three days.

These symptoms appear, after long-continued collapse, in Cholera. The action of the heart is debilitated by the paralysis of the nervous system, but in addition to this the dark blood is less stimulant. The rapid prostration of the action of the heart in Cholera is very marked. If stimulant properties be imparted to the blood by saline transfusion, the action of the heart is restored,

and the red colour brought back to the blood, but the paralysis of the ganglionic system remaining, the patient dies.

The paralysis of the ganglionic nerves may be removed after long-continued collapse, and still the injurious effects of the circulation of vitiated blood may prove fatal, or cause dangerous disease.

MORBID APPEARANCE,

A liquid dark state of the blood with intense red congestion of the stomach and intestines. Congestion of the lungs and right side of the heart, were found in all the cases that proved fatal within twelve hours. The examination of the bodies was discontinued when the mortality became great.

THE TREATMENT.

In no disease is the early exhibition of remedies more important than in Cholera. Some remedies which prevent the accession of collapse, if given early, are powerless, if not injurious, after collapse has supervened. A remedy which merely increased the heart's action by forcing an increased quantity of vitiated blood through a paralyzed organ would cause congestion and not promote healthy secretion. It would rather impede the natural secretion of the weakened organs. In slight cases, particularly if it stimulated the ganglionic system also, such a remedy might be useful.

The removal of the paralyzed state of the ganglionic nerves is the first object, and in slight cases this is all that is required, the restoration of the functions of the organs being the necessary consequence. But in longer standing cases, when the prolonged collapse has induced a vitiated state of the blood, further treatment will be required for its purification. In the earliest stage, before any evacuation takes place, Quinine is of the greatest value. It is also useful as a prophylactic. Where the first symptoms of looseness or vomiting appear, the remedy which I have found most useful is the Cholera Pill, a combination of Opium, Black Pepper, and Assafoetida.* I have used it with many other remedies for eighteen years, and have found none more efficacious in preventing collapse, or, in combination with Calomel and Quinine, (one grain of each) more powerful in inducing re-action. Two of the Pills were given immediately the symptoms appeared, and repeated if vomited, and a Mustard Poultice applied to the stomach. When the vomiting was checked, a dose of Calomel was given, followed in six hours by a gentle laxative with Quinine. Little water was allowed and rest enjoined. Frictions with oil and turpentine were employed for the cramps. A blister to the stomach was used with advantage in cases where the looseness continued long. A little soda was occasionally given with the Pills with advantage.

An important advantage of this form of medicine consists in the facility of distribution, and the absence of danger from giving it ignorantly. In many

* The Pills are composed of 5 grains in the following proportions :—

- 1 part of Opium.
- 2 parts of Black Pepper.
- 3 parts of Assafoetida.

instances, the patient is collapsed within three hours of the attack, after which all remedies are equally powerless. The re-action which occasionally takes place, after long-continued collapse, appears to depend on an effort of Nature, more than the remedies employed. Alcoholic stimulants did not appear beneficial in this stage. I have found benefit from hot saline Enemata, but they are not adapted to general use in India. Blisters to the abdomen, hot applications, friction to the extremities, and small quantities of Ammonia with a little arrow-root were used with advantage.

Nitro-muriatic acid applications to the whole body were reported by Surgeon T. S. Lacy to have proved very beneficial.

The Natives had great confidence in the Cholera Pills, and used them freely after they knew that they were composed of Bazar Native Medicines. They were given at all the Dispensaries. Twelve of the Medical students were stationed over the City for their distribution. They were supplied to all the Police Stations in the City and all over the District: 90,000 were made up at the Thomason Hospital, 50,000 at Bhurtpore, and 10,000 at Muttra. There is scarcely a gentleman at Agra, who has not reported having saved the lives of some of his servants, or the neighbouring Natives, by the early exhibition of these Pills.

Many other remedies have been used with reported advantage in the earlier stages, before collapse supervened. Their chief ingredients were Alcohol, Opium, and some stimulant, aromatic Medicines, as peppermint, cloves, red pepper, garlic, onions. The Carbonate of Soda (Sudjee) was used with advantage in many cases in which there was acidity. Sulphuric Acid found much favour throughout with Dr. Lacy, though the cases in which I saw it used did not terminate favorably. It was afterwards used by him in alternate doses, every quarter of an hour, with Carbonate of Soda. A larger proportion of these cases recovered.

Dr. Walker, from previous experience, had confidence, at first, in small bleedings and copious use of Alum solution. This treatment was not successful this year. He then used large doses of Sugar of Lead, and stimulants, with better success. The effect of 20 grains of Sugar of Lead in checking the discharges, in the earlier stages, was evident, but something appeared wanting to establish re-action and restore the secretions.

I have not alluded to the conservancy or ventilation of the Jail or the diet of the prisoners, as these points are known to be most carefully attended to; whilst the health of the prisoners was satisfactory up to the breaking out of the Epidemic. Whole families were carried off in some crowded, ill-ventilated houses in the City. The disease was not more virulent in the vicinity of the Jail than in other situations. (See Table No. V.) On the contrary, there were under two per cent. of fatal cases in the Convent, Orphanage, and extensive Roman Catholic Establishment, which is only separated from it by the road. Whilst the mortality amongst the Europeans in Cantonments, four miles off, amounted to 9.49 per cent., the mortality in the Jail Guard was 1.03 per

cent., whilst that of the Native Infantry in Cantonments was 1·07 per cent. I have already stated that there was not a single case of Cholera in the two Companies of Native Infantry who were on duty over the prisoners for nearly a month. I mention these facts in illustration of the influence of the Jail on the health of the vicinity.

In my Report on the attack of Cholera in 1851, I traced the progress of the disease from Cabool, where it originated in 1842, through Lahore in 1844, passing by Agra in 1845, to Gwalior in 1846. Another branch reached Kurrachee in 1846, "whose progress," I stated, "would be through Turkey to Europe. At this rate it would appear on the shores of the Mediterranean in 1852 or 1853." The Allied Troops suffered severely from this disease on the shores of the Black Sea in 1854.

Agra may be considered the centre of the present attack. It is progressing to the north more rapidly than it advanced in 1845. It took two seasons to come from Lahore to Agra, and it has gone back in three months. Table No. III. is an imperfect attempt to trace this progress from private letters, and public newspapers. The present appears a favorable opportunity of Government obtaining more accurate information on this important subject.

JOHN MURRAY, *Civil Surgeon,*

Medical Visitor, Central Prison.

AGRA :
The 1st September 1856. }

NOTE.

As a further elucidation of my views on the contagious character of Cholera, and a fuller detail of the mode in which the Cholera poison attacks first the ganglionic system of nerves, and presses on to affect the rest of the system, may interest Medical readers, I proceed to note the following observations:—

I.—*On the contagious character of Cholera.*

1st.—We must all admit that there is a Cholera poison, and I believe it is a product of the animal kingdom.

2nd.—It affects the human race, but may be communicated by inoculation to animals.

3rd.—It is most prevalent and severe where men are most crowded, and where ventilation is not free.

4th.—The disease has been carried in a ship thousands of miles, and appeared soon after in the new country.*

5th.—Our present attack has spread from Agra as a centre, in all directions, North, South, East, and West.

6th.—Dr. Farquhar and myself were affected a few minutes after breathing the air of the Cholera Hospital, in which were 200 patients; the air was sensibly impure; many of the patients in Hospital, and Hospital Attendants were affected, both Natives and European. Many families in the City were carried off entirely, and the friends who came to visit them were affected. The current belief among the Natives here is that it is contagious. The first case that occurred in the city of Muttra was in a man who had accompanied a dead Cholera case the previous day from Hatras.

7th.—The Cholera will be communicated to a person pre-disposed, who comes in contact with the person, or excretions, of a Cholera patient.

8th.—A healthy person may be exposed to the same influence and the disease not appear because the system had strength to resist and eliminate the poison.

9th.—During the progress of elimination, the disease may be brought into action by various causes, as exhaustion, fatigue, purgative, and other debilitating medicines.

10th.—The disease is contagious, and I believe infectious.†

II.—*As to the mode in which the system is attacked.*

1st.—There is a Cholera poison.

2nd.—Its first appreciable action is an interruption of the functions of the organs supplied by the ganglionic system of nerves.

3rd.—The effete portions of the blood are thus not eliminated from the circulation.

* The accompanying extract from the *John Bull* newspaper, which arrived when this Report was in the Press, is an illustration of paragraph 4:—

“We have very sad and alarming news to report from Madeira. The facts appear to be these. A number of Portuguese troops left Lisbon on the 20th June for Funchal. There is every reason to believe that Cholera prevailed at Belem before the troops left, yet notwithstanding the ridiculous strictness of the Portuguese authorities about quarantine, these soldiers were allowed to proceed to Madeira. At sea Cholera broke out, and when the men landed at Funchal, where a fair was being held, the disease soon afterwards made its appearance among the inhabitants. On the 3rd August there had been 5,000 cases of Cholera, and 1,500 deaths amongst the population of Funchal, which numbered only 28,000. There were no medical men, nor any medicines in the island, and the people were dying for want of them. The panic which this calamity caused at Funchal was terrible; all business was suspended, the shops were closed, and every family isolated itself. The dead lay unburied in the cemetery, and fires were kindled there to mitigate the evil effects arising from the putrefaction of dead bodies. The Government at length got twelve men to dig graves, and six of them literally dug their own, for they died almost immediately, and were buried in the graves they had made for others.”

† A student of medicine died from Cholera in Edinburgh in 1832. His clothes were sent to his mother in Fraserburgh. She unpacked them, caught the disease, and died. No other case occurred in the town during that year.

4th.—This vitiated blood now acts as a poison on the general system, as in the ordinary cases of suppression of urine or bile.

5th.—The carbonized state of the blood, combined with the impeded respiration, causes the circulation of venous blood, which affects the whole of the nervous system, and of itself may cause death.

6th.—The intellect is not affected in the earlier stages.

7th.—The poison is brought in contact with the ganglionic system, through the medium of the circulation. If introduced in a concentrated state, through the lungs, or stomach, it causes total paralysis like concussion, and death soon follows, even in the strongest and healthiest person. If less concentrated, the poison may be eliminated or thrown off through the excretory functions, but should these organs be debilitated from any cause, as fatigue, anxiety, nauseating, or purgative medicines, the poison will come into action as Cholera; otherwise, there is merely loss of appetite, or slight diarrhœa, the stools being at first white and then dark.



Statistical Table of the Cases of Cholera in the Central Jail at Agra, in the Year 1856.

Date 1856.	STRENGTH.			ADMISSIONS.			Deaths.	Recoveries.	RESULT OF THE ADMISSIONS OF EACH DAY.											AGE.					PERIOD OF IMPRISONMENT.										Quantity of Rain.					
	Jail.	Outgangs.	Total.	Jail.	Outgangs.	Total.			Died.	Under 12 hours.	Under 1 day.	Under 2 days.	Under 4 days.	Over 4 days.	Recovered.	Under 2 days.	Under 4 days.	Under 8 days.	Over 8 days.	Under 20.		30.		40.		50.		Over 50.		Under 3 years.		7.		14.		21.		Life.		
																				Died.	Recovered.	Died.	Recovered.	Died.	Recovered.	Died.	Recovered.	Died.	Recovered.	Died.	Recovered.	Died.	Recovered.	Died.		Recovered.	Died.	Recovered.	Died.	Recovered.
May 30th. . .	3344	360	3704	2	0	2	0	0	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1.62	
June 1st. . .	3340	358	3698	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.22	
" 2nd. . .	3337	355	3692	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
" 3rd. . .	3334	355	3689	1	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
" 4th. . .	3335	354	3689	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
" 5th. . .	3326	354	3680	3	0	3	3	0	2	1	0	0	0	1	1	0	0	0	1	0	0	2	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	
" 6th. . .	3398	295	3693	1	1	2	0	0	1	0	1	0	0	0	1	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	
" 7th. . .	3324	366	3690	6	0	6	5	0	5	4	0	0	0	1	1	0	0	0	1	0	0	3	1	2	0	0	0	0	0	1	0	0	0	4	1	0	0	0	0	
" 8th. . .	3319	366	3685	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	
" 9th. . .	3337	347	3684	7	0	7	0	1	3	0	1	2	0	0	4	0	0	0	4	0	0	2	3	1	0	0	1	0	0	0	1	2	1	1	2	0	0	0	0	0
" 10th. . .	3333	347	3683	4	1	5	2	0	4	0	2	0	1	1	1	0	0	0	1	0	0	2	1	2	0	0	0	0	0	1	0	2	1	0	0	1	0	0	0	0
" 11th. . .	3335	344	3679	7	0	7	3	0	4	0	2	2	0	0	3	0	0	0	3	0	1	2	0	2	0	0	1	0	1	3	1	1	1	0	0	0	0	0	1	1.37
" 12th. . .	3270	397	3667	18	1	19	7	0	9	5	3	0	1	0	10	0	0	0	0	0	1	6	5	0	2	2	2	1	0	2	4	2	3	4	0	0	0	1	3	0.24
" 13th. . .	2638	1008	3646	8	0	8	7	0	2	1	1	0	0	0	6	0	0	0	6	0	0	2	4	0	1	0	1	0	0	1	4	0	1	1	0	0	0	0	1	0.12
" 14th. . .	2640	1006	3646	11	1	12	1	0	1	0	0	1	0	0	11	0	1	0	10	0	1	1	4	0	4	0	0	0	2	0	6	1	2	0	0	0	0	0	3	
" 15th. . .	2664	979	3643	6	0	6	2	1	3	1	2	0	0	0	3	0	0	0	3	1	0	1	2	1	1	0	0	0	0	1	1	0	2	0	0	1	0	1	0	
" 16th. . .	2770	895	3665	9	5	14	6	1	5	2	2	0	0	1	9	0	0	0	9	0	1	1	4	2	2	0	0	2	2	2	3	0	3	2	1	0	0	1	2	
" 17th. . .	2765	895	3660	7	3	10	4	0	5	2	3	0	0	0	5	0	0	0	5	0	0	2	1	2	1	0	2	1	1	3	1	0	2	0	0	0	1	0		
" 18th. . .	2749	900	3649	9	4	13	6	1	9	2	4	2	1	0	4	0	0	0	4	0	0	2	1	2	1	0	2	5	0	2	1	5	1	1	1	0	0	1	1	0.62
" 19th. . .	2580	1055	3635	14	4	18	5	8	8	3	4	0	0	1	10	0	0	3	7	0	0	2	7	2	2	2	0	2	1	3	3	1	3	3	4	0	0	1	0	0.07
" 20th. . .	2765	855	3620	8	9	17	17	8	12	10	1	0	1	0	5	0	1	1	3	0	0	2	4	4	0	2	1	4	0	5	3	2	2	2	0	0	0	3	0	
" 21st. . .	2731	892	3623	2	25	27	1	0	12	0	2	3	3	4	15	0	2	2	11	0	1	2	2	3	5	3	1	4	7	3	4	6	6	2	4	1	0	0	1	
" 22nd. . .	2569	1040	3609	9	3	12	5	0	7	3	1	0	1	2	5	0	1	0	4	0	0	4	2	1	2	1	0	1	1	2	1	0	2	3	0	1	0	1	2	
" 23rd. . .	2559	1036	3595	13	11	24	9	0	13	4	5	2	1	1	11	0	0	0	11	0	1	4	3	4	4	2	1	3	2	3	4	3	5	5	1	0	0	2	1	
" 24th. . .	2575	1002	3577	14	13	27	10	0	11	3	0	2	1	5	16	0	0	0	16	0	0	1	6	4	7	2	2	4	1	3	4	1	8	4	2	0	2	3	0	
" 25th. . .	2717	858	3575	11	17	28	7	27	9	3	1	1	2	2	19	0	0	8	11	0	2	4	8	2	4	2	3	1	2	4	7	4	4	0	5	1	2	0	1	
" 26th. . .	2346	1003	3549	27	14	41	11	10	16	7	8	0	0	1	25	0	0	6	19	0	1	5	13	5	5	1	2	5	4	4	5	5	6	4	10	0	2	3	2	
" 27th. . .	2244																																							

*Table of Cases of Cholera in the District of Agra, during the months of May, June, July, and up to 8th August 1856,
from a Return made by the Collector.*

1856.	Name of Tuhseelee.	Number of Inhabitants.	MAY AND JUNE.			JULY.			FROM 1ST TO 8TH AUGUST.			TOTAL.			RATIO PER CENT.		
			No. of Cases attacked.	Recovered.	Died.	Attacked.	Recovered.	Died.	Attacked.	Recovered.	Died.	Attacked.	Recovered.	Died.	Attacks to number of Inhabitants.	Deaths to Inhabitants.	Deaths to attacks.
	City Agra and Huzoor Tuhseelee,	254576	5109	2998	2111	3458	1913	1545	61	39	22	8628	4950	3678	2.18	0.84	38.67
	Futtehpore Seekree,	76808	1357	977	380	1067	463	604	53	18	35	2477	1458	1019			
	Kheragurh,	80839	495	413	82	2062	1481	581	127	56	71	2684	1950	734			
	Furrah,	92495	592	372	220	792	257	535	32	18	14	1416	647	769			
	Iradatnugger,	80908	756	594	162	1875	1094	781	104	58	46	2735	1746	989			
	Pinahut,	133417	38	32	6	956	618	338	430	235	195	1424	885	539			
	Futtyabad,	82553	77	58	19	552	339	213	148	91	57	777	488	289			
	Ferozabad,	97223	186	124	62	964	821	143	128	104	24	1278	1049	229	2.18	0.84	38.67
	Kundowlee,	103142	169	75	94	395	226	169	31	26	5	595	306	268			
	Total, ..	1001961	8779	5643	3136	12121	7212	4909	1114	645	469	22014	13479	8514			

JOHN MURRAY, Civil Surgeon,

Medical Visitor.

No. III.

Table shewing the Progress of the Cholera at Agra and in the North Western Provinces, during the year 1856.

	MAY.				JUNE.				JULY.				AUGUST.				
	1st Week.	2nd Week.	3rd Week.	4th Week.	1st Week.	2nd Week.	3rd Week.	4th Week.	1st Week.	2nd Week.	3rd Week.	4th Week.	1st Week.	2nd Week.	3rd Week.	4th Week.	
AGRA CITY AND SUBURBS.	Tajgunge,	11	{ Prisoners sent on 18th June.
	Lohe-ki-Mundee, ..	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	City,	21	{ Prisoners sent on 13th June.
	Thomason Hospital, ..	..	..	22	..	..	..	..	..	..	..	..	..	..	..	..
	Civil Lines, .. ..	..	..	23	..	..	..	..	..	..	..	..	..	..	..	..
	Tuxal, .. ..	..	..	25	..	..	..	..	..	..	..	..	..	..	..	..
	Dhumsallah Dispensary,	26	{ Prisoners sent on 13th June.
	Jail, .. ..	..	..	30	..	..	..	..	..	..	..	..	..	..	..	..
CANTONMENTS.	Shahgunge,	1	{ Prisoners sent on 13th June.
	Seeundra, .. ..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
	72nd Regt. N. I.,	1	{ Prisoners sent on 12th June.
	3rd En. Regt., ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
	30th Regt. N. I., ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
DISTRICTS.	European Artillery, .. ..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
	44th Regt. N. I.,	1	4th September.
	Futtehpore Seekree, ..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
	Furrah, .. ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
	Kheragurh, .. ..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
	Iraddnugger, .. ..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
	Ferozabad, .. ..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
	Kundowlee, .. ..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
	Futtyabad, .. ..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
	Pinahut, .. ..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
	Hatras, .. ..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
	Muttra, .. ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
	Bhurtpore, .. ..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
	Allygurh, .. ..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
	Dehli, .. ..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
	Meerut, .. ..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
	Saharunpore, .. ..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
	Umballah, .. ..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
	Lahore, .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
	Ferozepore, .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
	Dholepore, .. ..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
	Gwalior, .. ..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..
	Bareilly, .. ..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
	Nynce Tal, .. ..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
	Deyrah, .. ..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..

JOHN MURRAY, *Civil Surgeon,*

Medical Visitor.

No. IV.

Statistical Table of Cases of Cholera in the Central Jail, Agra, for the years 1851 and 1856.

			1851.					1856.				
			Strength.	Admissions.	Recoveries.	Deaths.	Ratio per cent death to admissions.	Strength.	Admissions.	Recoveries.	Deaths.	Ratio per cent deaths to admissions.
AGES.	Under 20 years,	.. ..	0	3	3	0	0 00	0	17	15	2	11.77
	From 20 to 30,	.. ..	0	87	65	22	25.28	0	231	151	80	34.63
	" 30 to 40,	.. ..	0	92	67	25	27.17	0	159	88	71	44.65
	" 40 to 50,	.. ..	0	39	24	15	38.46	0	66	40	26	39.39
	Over 50,	.. ..	0	43	25	13	30.22	0	91	40	51	56.04
	Total,	.. ..	0	264	184	80	30.30	0	564	334	230	40.78
PERIOD OF IM-PRISONMENT.	Under 3 years,	.. ..	435	15	12	3	20.00	69	153	92	61	39.87
	From 3 to 7,	.. ..	997	67	49	18	26.86	751	142	89	53	37.32
	" 7 to 14,	.. ..	866	69	54	15	21.74	867	165	96	67	40.66
	" 14 to 21,	.. ..	87	10	7	3	30.00	686	26	14	12	46.15
	For Life,	.. ..	556	92	56	36	39.13	510	78	41	37	47.43
	Total,	.. ..	2939	253	178	75	29.64	3704	564	334	230	40.78
Guard,			600	11	6	5	45.45	484	15	10	5	33.33
Grand Total,			3539	264	184	80	30.68	4188	579	344	235	40.59
RATIO PER CENT.	Admissions to strength,	.. ..	7.46					13.82				
	Deaths to strength,	.. ..	2.26					5.61				
	Deaths to admissions,	.. ..	30.68					40.59				

JOHN MURRAY, *Civil Surgeon,*
Medical Visitor.

No. V.

Comparative Table of Attacks of Cholera amongst the Prisoners in the Central Jail, and in the neighbouring population.

	Strength.	Admissions.	Recoveries.	Deaths.	RATIO PER CENT.		
					Admissions to strength.	Deaths to strength.	Deaths to admissions.
Prisoners in Jail,	3704	564	334	230	15.22	6.21	40.78
Jail Guard,	484	15	10	5	3.09	1.03	33.33
Inhabitants of the District,	1001961	22014	13479	8514	2.18	0.84	38.67
European Troops in Cantonment,	980	206	113	93	21.02	9.49	45.14
Native Troops in Cantonment,	2897	0	0	31	0	1.07	
Convent and Orphanage,	225	22	18	4	9.77	1.77	18.18
City of Bhurtpore,	0	1407	1244	163	0	0	9.09
							11.58

JOHN MURRAY, *Civil Surgeon,*
Medical Visitor.

Meteorological Register kept at the Office of the Secretary to Government,

MAXIMUM PRESSURE OBSERVED AT 9.50 A. M.

OBSERVATIONS AT APPARENT

Date.	Barometer.	Temperature.			Direction of Wind.	Quantity of Rain.	Aspect of the sky.		Barometer.	Temperature.			Direction of Wind.	Quantity of Rain.
		Of Mercury.	Of Air.	Wet Bulb.						Of Mercury.	Of Air.	Wet Bulb.		
1	29.325	99.0	99.4	75.8	SW	..	Clear,		29.285	102.0	102.5	74.5	SW	..
2	29.235	101.9	102.5	76.2	SE	..	Ditto,		29.205	104.8	105.0	77.0	W	..
3	29.205	94.0	94.8	79.0	NE	..	Ditto,		29.181	99.9	101.4	80.5	E	..
4	29.235	91.0	91.5	75.0	W	..	Ditto,		29.205	93.0	95.6	76.0	N	..
5	29.295	93.0	93.4	76.5	SE	..	Ditto,		29.277	96.9	97.8	78.4	SW	..
6	29.289	99.5	99.8	75.0	SW	..	Ditto,		29.279	102.8	103.5	76.0	SW	..
7	29.263	100.5	101.3	72.2	W	..	Ditto,		29.241	105.2	105.5	72.5	W	..
8	29.229	100.0	100.6	71.5	W	..	{ ~ Scattered in zen., }		29.215	108.8	104.0	72.5	W	..
9	29.183	101.9	102.5	72.0	W	..	Clear,		29.171	106.8	107.0	74.0	W	..
10	29.273	100.9	102.0	73.6	N	..	Ditto,		29.259	104.5	105.5	75.0	N	..
11	29.249	100.4	101.0	72.3	W	..	Ditto,		29.229	104.5	104.8	73.0	W	..
12	29.225	101.0	101.2	72.0	W	..	Ditto,		29.199	104.5	103.5	72.5	W	..
13	29.225	99.8	100.5	72.0	NW	..	Ditto,		29.215	102.5	104.5	73.0	NW	..
14	29.221	99.8	100.0	71.5	W	..	Ditto,		29.197	102.0	102.2	74.3	W	..
15	29.215	98.2	98.5	73.0	W	..	Ditto,		29.189	101.0	101.9	74.0	W	..
16	29.231	97.6	97.9	76.0	E	..	Ditto,		29.209	101.0	101.9	75.0	SW	..
17	29.271	91.0	91.9	75.0	E	..	Ditto,		29.255	96.0	97.2	76.4	E	..
18	29.355	95.4	96.0	73.8	SE	..	Ditto,		29.329	99.9	100.5	75.4	SE	..
19	29.331	98.5	98.5	75.0	SE	..	Ditto,		29.305	101.0	101.2	75.5	NE	..
20	29.255	103.9	104.5	74.0	W	..	Ditto,		29.245	108.8	108.5	72.5	W	..
21	29.283	101.5	101.9	74.8	NE	..	Ditto,		29.267	105.0	106.0	76.0	NE	..
22	29.275	102.5	101.5	81.0	E	..	Ditto,		29.255	107.0	107.5	77.0	NE	..
23	29.201	94.5	95.0	77.0	E	..	Ditto,		29.193	98.2	99.5	78.4	E	..
24	29.275	88.5	89.0	76.5	E	..	{ ~ Scattered,		29.261	93.0	93.5	77.0	E	..
25	29.181	97.0	97.6	76.2	SE	..	Clear,		29.161	100.9	100.5	77.0	S	..
26	29.129	98.8	99.0	78.5	W	..	Ditto,		29.095	102.5	102.5	77.5	W	..
27	29.149	98.9	99.0	79.0	E	..	Ditto,		29.129	102.0	102.5	78.0	N	..
28	29.183	100.5	100.8	78.8	SW	..	Ditto,		29.153	103.8	104.3	80.0	NW	..
29	29.103	98.0	98.2	78.5	NE	..	Ditto,		29.075	101.0	101.5	79.4	W	..
30	29.085	97.0	97.5	80.0	SE	..	Ditto,		29.075	101.5	102.0	80.3	NE	..
31	29.165	89.0	89.0	74.9	NE	1.62	{ ~ Scattered,		29.139	93.5	94.0	76.3	NE	..
	29.227	97.8	98.2	75.3		1.62			29.209	101.6	102.2	75.9		..

NOTE.—The Dry Bulb and Maximum Register do not agree; the former always reads more than the latter. The average difference is 1.6.

North Western Provinces, Agra, for the Month of May 1856.

NOON.		MINIMUM PRESSURE OBSERVED AT 4 P. M.									
Aspect of the sky.	Barometer.	Temperature.			Maximum and Minimum.			Aspect of the sky.	Direction of Wind.	Quantity of Rain.	
		Of Mercury.	Of Air.	Wet Bulb.	Maximum.	Minimum.	Mean.				
Clear,	29.189	106.5	106.2	77.0	106.3	85.5	95.9	Clear,	NW		
Ditto,	29.111	100.0	111.0	76.5	111.2	89.0	100.1	Ditto,	NW		
Ditto,	29.115	107.5	107.0	82.5	107.2	87.0	97.1	Ditto,	W		
Ditto,	29.165	103.6	103.5	77.9	111.0	87.5	99.25	Ditto,	NW		
Ditto,	29.205	103.0	103.5	78.7	103.5	81.0	92.25	Ditto,	SW		
Ditto,	29.199	107.0	107.0	75.4	107.0	87.0	97.0	Ditto,	W		
Ditto,	29.167	109.9	108.5	71.8	109.8	89.5	99.65	Scattered, ..	W		
Scattered, ..	29.139	108.9	108.0	72.2	110.0	90.5	100.2	Scattered, ..	NW		
Clear,	29.105	101.2	111.0	74.2	111.0	89.0	100.0	Clear,	W		
Ditto,	29.183	106.8	106.5	74.5	109.0	87.5	98.25	Scattered to N. E.	NW		
Ditto,	29.173	107.5	107.0	75.5	107.5	88.0	97.75	Clear,	W		
Ditto,	29.139	107.5	107.5	72.0	107.5	87.5	97.5	Scattered, ..	W		
Ditto,	29.135	107.2	106.5	73.5	106.5	87.0	96.75	Scattered, ..	W		
Ditto,	29.129	106.0	106.0	76.0	106.0	87.8	96.9	Clear,	W		
Ditto,	29.119	106.4	106.4	74.2	106.4	91.0	98.7	Ditto,	NW		
Ditto,	29.135	107.8	108.0	72.9	107.9	84.5	96.2	Scattered, ..	NW		
Ditto,	29.193	103.0	103.5	76.0	106.6	85.0	95.8	Clear,	E		
Ditto,	29.239	106.5	106.2	75.8	106.5	86.0	96.25	Ditto,	NW		
Ditto,	29.205	107.0	107.0	78.5	107.0	85.8	96.4	Ditto,	NW		
Ditto,	29.205	112.5	112.4	75.0	112.0	89.0	100.5	Ditto,	W		
Ditto,	29.189	110.5	110.5	78.2	110.5	89.0	99.75	Ditto,	NE		
Ditto,	29.205	111.2	111.0	76.9	111.0	92.8	101.9	Ditto,	NW		
Hazy,	29.193	100.0	100.0	77.0	100.5	84.5	92.5	Hazy,	E		
Scattered, ..	29.119	98.0	98.0	76.5	98.0	79.8	88.9	Clear,	E		
Clear,	29.157	104.9	106.0	79.0	105.5	83.9	94.7	Ditto,	NW		
Ditto,	29.083	106.8	106.8	79.0	107.0	90.8	98.9	Ditto,	NW		
Ditto,	29.013	105.8	105.4	81.9	105.5	85.5	95.5	Ditto,	N		
Ditto,	29.071	98.0	98.0	74.0	100.0	90.0	100.0	Stormy,	W		
Ditto,	28.091	106.2	105.0	82.4	106.0	87.0	96.5	Hazy,	W		
Ditto,	28.967	103.8	103.0	80.5	104.2	91.2	97.7	Clear,	E		
Ditto,	29.997										
Hazy,	29.049	99.9	99.4	80.5	100.0	69.8	84.9	Scattered in zen,	NE		
	29.132	106.1	105.9	76.6	107.0	86.7	96.89				

Barometer observations corrected for capillarity only.

(Signed) R. C. OLDFIELD,

Secy. to Government, N. W. P.

Meteorological Register kept at the Office of the Secretary to Government,

MAXIMUM PRESSURE OBSERVED AT 9.50 A. M.

OBSERVATIONS AT APPARENT

Date.	Barometer.	Temperature.			Direction of Wind.	Quantity of Rain.	Aspect of the sky.		Barometer.	Temperature.			Direction of Wind.	Quantity of Rain.
		Of Mercury.	Of Air.	Wet Bulb.						Of Mercury.	Of Air.	Wet Bulb.		
1	29.147	90.5	91.4	74.8	E	..	Scattered,	..	29.123	94.0	95.2	75.2	E	..
2	29.077	80.8	78.4	74.0	NE	..	All over,	..	29.069	77.8	72.5	72.5	NE	..
3	29.245	81.5	82.0	77.0	SE	..	Scattered,	..	29.221	84.9	85.8	79.3	SE	..
4	29.265	85.9	86.0	80.2	NE	..	Do. in zen.,	..	29.239	89.0	90.1	80.5	E	..
5	29.247	88.0	88.0	80.0	SE	..	Clear,	..	29.239	90.1	91.4	79.9	E	..
6	29.231	90.5	90.6	81.2	SE	..	Ditto,	..	29.197	92.9	94.2	81.0	SE	..
7	29.147	92.0	92.7	81.6	E	..	Scattered	towards E.	29.131	95.5	96.0	82.4	SE	..
8	29.155	93.8	93.5	80.0	E	..	Scattered,		29.137	95.5	96.0	81.0	E	..
9	29.133	90.9	91.0	80.5	E	..	Scattered	all over,	29.119	93.6	94.2	80.5	SE	..
10	29.095	92.5	93.0	81.5	SE	..	Ditto,		29.069	94.6	95.0	81.5	E	..
11	29.087	83.2	82.5	80.4	NW	1.37	All over,	..	29.055	86.0	87.0	83.5	NW	..
12	29.063	85.3	85.9	82.0	NE	..	Ditto,	..	29.033	87.0	86.4	82.5	NW	..
13	28.991	86.0	86.4	82.4	S	..	Scattered,	..	28.973	88.4	88.8	83.0	SW	..
14	29.005	90.9	91.0	78.5	NW	..	Ditto,	..	28.993	92.4	92.4	80.0	NW	..
15	29.061	93.0	93.8	81.0	NW	..	Ditto,	..	29.047	96.0	96.8	81.9	NW	..
16	29.037	91.5	92.0	81.5	SW	..	Ditto,	..	29.031	92.0	91.0	82.6	SW	..
17	29.035	90.8	91.5	80.9	W	..	Clear,	..	29.023	93.8	94.0	82.0	W	..
18	29.059	95.0	95.5	80.5	NW	..	Scattered,	..	29.055	96.8	97.0	82.5	NW	..
19	29.133	88.9	88.8	77.0	NE	..	Clear,	..	29.127	91.5	92.4	80.0	E	..
20	29.149	91.5	92.0	79.5	NW	..	Scattered	in zen.	29.143	94.5	95.0	79.0	W	..
21	29.145	94.8	95.0	81.4	NW	..	Clear,		29.145	97.9	98.5	78.5	NW	..
22	29.155	98.5	98.9	79.0	NW	..	Ditto,	..	29.141	100.7	100.9	79.5	NW	..
23	29.105	98.0	98.5	78.2	NW	..	Ditto,	..	29.083	100.5	106.8	78.9	NW	..
24	29.055	96.8	97.0	77.8	NW	..	Ditto,	..	29.045	98.9	99.4	78.2	NW	..
25	29.085	95.9	96.2	77.5	NW	..	Ditto,	..	29.085	99.5	100.0	79.4	W	..
26	29.127	98.8	99.4	80.5	NW	..	Scattered,	..	29.109	100.0	100.2	80.0	N	..
27	29.127	98.1	98.5	79.1	NW	..	Clear,	..	29.117	100.4	100.4	80.4	NW	..
28	29.173	92.5	92.0	81.4	N	..	Ditto,	..	29.149	94.2	94.5	81.0	N	..
29	29.141	98.5	99.0	81.2	NE	..	Scattered	in zen.,	29.119	101.8	102.0	81.0	NE	..
30	29.073	101.0	101.5	81.6	SW	..	Clear,		29.061	103.8	104.9	80.3	NW	..
31	29.118	91.8	92.0	79.7	..	1.37			29.102	94.1	94.6	80.2	..	..

NOTE.—The Dry Bulb and Maximum Register do not agree; the former always reads more than the latter. The average difference is 1.6.

North Western Provinces, Agra, for the month of June 1856.

NOON.		MINIMUM PRESSURE OBSERVED AT 4 P. M.								
Aspect of the sky.	Barometer.	Temperature.			Maximum and minimum.			Aspect of the sky.	Direction of Wind.	Quantity of Rain.
		Of Mercury.	Of Air.	Wet Bulb.	Maximum.	Minimum.	Mean.			
~ Scattered, ..	29.065	91.8	89.8	76.6	95.2	69.5	82.35	{ ~ Scattered all over.	SE	2.22
Raining, ..	29.005	77.5	77.0	73.0	77.0	75.8	76.4	{ All over, ..	NE	
~ Scattered, ..	29.157	89.5	89.5	80.4	90.0	71.5	80.75	{ Scattered, ..	E	
~ Ditto in zen.,	29.137	94.2	95.0	80.5	94.5	77.5	86.0	{ Clear, ..	NE	
~ Ditto ditto, ..	29.143	94.5	94.5	79.9	94.5	79.0	86.75	{ Ditto, ..	E	0.12
Clear, ..	29.099	97.9	98.2	80.0	98.0	81.8	89.9	{ Ditto, ..	E	
{ ~ Scattered all over,	29.055	99.7	99.5	81.8	99.8	86.0	92.9	{ ~ Scattered all over,	SE	
~ Scattered, ..	29.051	98.5	98.5	81.2	98.5	85.0	91.75	{ Scattered, ..	E	
~ Ditto all over,	29.017	97.0	96.5	80.2	97.0	84.0	90.5	{ Ditto, ..	E	0.62
~ Ditto, ..	29.005	96.2	87.9	80.2	97.8	84.8	91.3	{ Ditto, ..	NE	
~ Scattered, ..	29.033	83.8	83.4	80.9	89.0	79.0	84.0	{ Raining, ..	N	
~ All over, ..	28.959	83.9	83.9	79.8	89.5	79.0	84.25	{ Scattered, ..	S	
~ Scattered, ..	28.917	86.0	81.0	79.0	91.2	79.0	85.1	{ Towards N. E.	SW	0.07
~ Ditto, ..	28.935	96.9	96.4	81.0	96.8	79.5	88.15	{ Scattered, ..	NW	
~ Ditto, ..	28.979	85.8	86.0	81.5	97.0	83.8	90.4	{ All over, ..	NW	
~ All over, ..	28.959	95.9	95.6	82.0	95.5	81.5	88.5	{ Clear, ..	W	
{ ~ Scattered in zen., }	28.961	98.4	98.9	81.0	98.0	80.0	89.0	{ ~ Scattered towards W., }	W	3.27
~ All over, ..	29.005	89.0	88.2	78.2	97.0	80.3	88.65	{ Scattered, ..	NE	
Clear, ..	29.099	84.0	84.5	79.2	93.0	82.0	87.5	{ All over, ..	SW	
Ditto, ..	29.077	101.0	101.0	79.8	100.5	81.3	90.9	{ Clear, ..	NW	
Ditto, ..	29.043	102.5	103.0	79.5	103.0	81.5	92.25	{ Ditto, ..	NW	3.27
Ditto, ..	29.067	104.8	105.0	82.0	105.0	89.0	97.0	{ Ditto, ..	NW	
Ditto, ..	29.021	106.8	106.5	80.5	106.8	89.0	97.9	{ Ditto, ..	NW	
Ditto, ..	28.983	103.9	103.0	81.0	103.8	89.0	96.4	{ Ditto, ..	W	
Ditto, ..	29.031	103.5	103.0	79.0	103.5	89.0	96.25	{ Ditto, ..	W	3.27
Ditto, ..	29.021	104.0	104.4	82.0	105.0	88.0	96.5	{ Scattered, ..	W	
{ ~ Scattered to W. hor., }	21.031	105.5	105.0	80.5	106.0	88.2	97.1	{ All over, ..	NW	
{ ~ Scattered in zen., }	29.065	99.9	99.5	82.0	99.5	81.0	90.25	{ Clear, ..	N	
~ Ditto, ..	29.025	104.8	104.1	81.1	105.0	95.0	100.0	{ ~ Scattered in zen., }	N	3.27
~ Scattered, ..	28.987	109.0	109.0	82.2	109.0	83.0	96.0	{ Ditto, ..	NW	
	29.031	96.1	95.4	80.2	97.8	82.4	90.15			

Barometer observations corrected for capillarity only.

(Signed,) R. C. OLDFIELD,

Secy. to Government, N. W. P.

Meteorological Register kept at the Office of the Secretary to Government,

MAXIMUM PRESSURE OBSERVED AT 9.50 A. M.								OBSERVATIONS AT APPARENT					
Date.	Barometer.	Temperature.			Direction of Wind.	Quantity of Rain.	Aspect of the sky.	Barometer.	Temperature.			Direction of Wind.	Quantity of Rain.
		Of Mercury.	Of Air.	Wet Bulb.					Of Mercury.	Of Air.	Wet Bulb.		
1	29.037	99.8	99.4	81.5	NE	..	{ Scattered in zen.,	29.017	182.9	102.6	83.5	NE	..
2	29.037	98.8	98.9	81.0	NW	..	{ Very few scattered,	29.031	101.0	101.2	82.5	NW	..
3	29.083	83.9	88.0	80.5	NE	..	{ Scattered,	29.073	90.8	90.0	82.0	NE	..
4	29.113	84.8	83.8	79.5	NE	..	{ All over,	29.113	85.6	85.0	81.5	E	..
5	29.087	87.3	86.9	82.3	NE	..	{ Scattered,	29.057	90.0	89.5	84.0	N	..
6	29.063	86.8	87.0	82.0	SE	..	{ Ditto,	29.051	90.3	90.5	83.5	SE	..
7	29.125	88.9	88.9	81.9	SW	..	{ Ditto,	29.115	91.0	92.0	83.0	NW	..
8	29.105	89.5	89.5	80.5	NW	..	{ Ditto,	29.083	92.0	93.0	82.0	NW	..
9	29.079	86.9	87.9	83.3	W	1.12	{ Ditto,	29.069	90.5	91.1	83.5	W	..
10	29.055	85.6	86.6	82.1	SW	1.12	{ All over,	29.047	89.0	89.2	82.0	W	..
11	29.019	90.5	90.9	80.4	NW	..	Clear,	29.013	93.5	93.4	80.2	NW	..
12	29.055	89.9	88.6	82.5	E	..	{ Scattered all over,	29.055	90.8	90.1	83.5	E	..
13	29.081	87.0	87.6	83.2	E	0.27	{ Ditto,	29.063	88.0	87.5	82.9	NE	..
14	29.063	86.5	86.5	82.9	SE	..	{ All over,	29.033	88.9	89.5	84.5	SE	..
15	29.023	87.9	88.0	84.2	SW	..	{ Ditto,	29.001	88.3	88.0	83.9	NE	..
16	28.995	79.5	79.8	79.0	NW	..	{ Ditto,	28.983	81.9	82.2	80.9	NW	4.27
17	22.003	79.9	80.0	99.5	NW	1.37	{ Ditto,	29.003	82.0	81.9	79.5	NW	..
18	28.993	79.2	79.5	78.2	W	..	{ Ditto,	28.987	84.0	81.1	80.6	W	..
19	29.027	81.8	81.4	80.0	NW	..	{ Ditto,	29.041	80.9	80.6	79.5	NW	..
20	29.055	86.4	86.8	83.0	N	..	{ Scattered,	29.027	87.8	88.2	83.5	N	..
21	29.075	90.8	90.8	84.6	NE	..	{ Ditto,	29.059	90.9	91.5	84.9	N	..
22	29.059	92.8	92.4	83.9	NE	..	{ Ditto,	29.071	94.2	94.5	84.2	SE	..
23	29.077	90.3	90.0	82.1	N	..	{ Ditto,	29.071	92.4	92.1	82.5	NE	..
24	29.017	88.3	89.0	81.9	E	0.15	{ Ditto,	29.013	90.6	90.0	81.9	E	..
25	29.051	87.0	87.4	82.5	SE	..	{ Ditto,	29.051	87.9	87.5	83.0	SE	..
26	29.055	87.0	87.0	83.5	NE	1.00	{ Ditto,	29.045	85.8	84.5	82.1	NE	..
27	29.025	85.2	85.2	82.0	SE	..	{ All over,	29.003	87.0	87.5	82.0	E	..
28	29.005	85.9	85.8	80.5	E	..	{ Scattered,	28.955	86.9	86.9	81.0	E	..
29	29.067	84.2	84.5	80.5	E	..	{ All over,	29.061	86.5	87.0	81.0	E	..
30	29.050	86.9	86.9	82.9	NE	..	{ Ditto,	29.035	85.0	84.0	81.5	NE	..
31	29.019	87.0	87.4	82.1	NW	5.03	{ Scattered,	28.995	85.5	83.0	80.9	W	..

NOTE.—The dry Bulb and Maximum Register do not agree; the former always reads more than the latter. The average difference is 1.6.

North Western Provinces, Agra, for the month of July 1856.

NOON.		MINIMUM PRESSURE OBSERVED AT 4 P. M.									
Aspect of the sky.	Barometer.	Temperature.			Maximum and Minimum.			Aspect of the sky.	Direction of Wind.	Quantity of Rain.	
		Of Mercury.	Of Air.	Wet Bulb.	Maximum.	Minimum.	Mean.				
Clear,	28.927	107.8	108.0	85.0	107.0	90.0	98.5	{ ~ Scattered in zen., }	NE		
{ ~ Scattered all over, }	28.931	83.9	84.5	80.0	104.0	88.0	96.0	{ ~ All over, ..	N	1.22	
{ ~ Scattered, ..	28.993	91.9	90.5	82.4	92.0	79.0	85.5	{ ~ Scattered, ..	E		
{ ~ All over, ..	29.057	86.0	86.0	82.5	86.0	81.0	83.5	{ ~ All over, ..	NE	0.12	
{ ~ Scattered, ..	29.005	85.9	85.4	81.2	90.0	81.0	85.5	{ ~ Scattered all over, }	NE		
{ ~ Ditto,	28.987	95.5	95.0	84.4	96.0	80.0	88.0	{ ~ Scattered, ..	E		
{ ~ Ditto,	29.031	88.9	87.2	79.5	96.2	81.0	88.6	{ ~ All over, ..	NW		
{ ~ Ditto,	29.005	90.5	89.9	81.6	95.0	82.0	88.5	{ ~ Scattered all over, }	W		
{ ~ Ditto,	28.975	95.2	95.9	83.5	95.2	75.0	85.0	{ ~ All over, ..	W		
{ ~ All over, ..	28.969	94.0	93.8	81.7	93.2	74.5	83.5	{ ~ Scattered in zen., }	NW		
{ ~ Scattered, ..	28.933	97.8	97.4	82.5	97.2	82.3	89.5	{ ~ Clear,	NW		
{ ~ Scattered over,	29.005	93.0	91.5	83.0	93.5	85.0	89.5	{ ~ Scattered all over., }	E		
{ ~ All over, ..	29.011	85.5	84.8	81.5	88.0	82.0	85.0	{ ~ Ditto,	N		
{ ~ Scattered all over, }	28.955	89.0	88.9	83.5	89.5	80.8	85.1	{ ~ Ditto,	E		
{ ~ All over, ..	28.939	88.0	87.0	82.2	88.5	81.8	85.1	{ ~ All over, ..	NE		
{ ~ Ditto,	28.915	85.0	84.9	81.5	84.5	75.2	79.85	{ ~ Ditto,	NW		
{ ~ Ditto,	28.959	83.0	82.9	80.5	83.0	77.8	80.4	{ ~ Ditto,	NW		
{ ~ Ditto,	28.941	81.0	81.0	80.0	81.2	76.8	79.0	{ ~ Ditto,	W	0.17	
{ ~ Ditto,	28.963	82.9	82.5	80.0	82.5	78.0	80.25	{ ~ Ditto,	N	0.42	
{ ~ Scattered, ..	28.977	92.5	91.9	85.0	92.0	77.9	89.95	{ ~ Scattered, ..	N		
{ ~ Ditto,	29.029	95.2	95.0	85.0	95.2	84.0	89.6	{ ~ Ditto,	NE		
{ ~ Ditto,	28.977	97.9	96.8	84.5	97.1	85.0	91.05	{ ~ Ditto,	SE		
{ ~ Ditto,	28.965	93.0	90.0	81.5	93.5	84.0	88.75	{ ~ Ditto,	E		
{ ~ Ditto,	28.937	89.0	89.8	84.0	90.0	82.5	86.25	{ ~ Ditto,	E		
{ ~ Ditto,	29.001	91.5	91.5	83.4	91.2	80.8	86.0	{ ~ Ditto,	SE		
{ ~ All over, ..	28.965	83.0	82.5	81.0	87.2	80.5	83.85	{ ~ All over, ..	N	0.77	
{ ~ Scattered, ..	28.941	85.0	86.0	83.0	88.5	79.8	84.15	{ ~ Scattered, ..	S	0.52	
{ ~ All over, ..	28.903	86.9	86.9	81.0	87.0	80.2	83.6	{ ~ All over, ..	E	0.62	
{ ~ Ditto,	29.001	89.9	89.5	81.9	89.5	79.2	84.35	{ ~ Ditto,	SE		
{ ~ Ditto,	28.977	88.9	88.0	82.3	89.3	81.2	85.25	{ ~ Ditto,	NW	0.32	
{ ~ Ditto,	28.967	83.9	84.0	82.0	88.0	82.0		{ ~ Ditto,	SW	0.92	

Barometer observations corrected for capillarity only.

(Signed,) R. C. OLDFIELD,
Secy. to Government, N. W. P.

No. 1424 A. of 1856.

FROM

C. B. THORNHILL, ESQUIRE,

Officiating Secretary to Government, N. W. P.

TO

J. MURRAY, ESQUIRE, M. D.,

Civil Surgeon of Agra.

Dated Head-Quarters, Nynce Tal, the 20th September 1856.

SIR,

I am directed to acknowledge the receipt of your letter of the 1st instant, No. 100, with its enclosures, being a Report on the Progress and Treatment of the attack of Epidemic Cholera which raged in Agra, during the present season.

GENERAL DEPARTMENT.

2nd.—In reply, I am desirous to intimate that the Lieutenant Governor has read this complete and valuable Report on a subject of deeply painful interest with great attention, and begs to tender you his best acknowledgments for it.

3rd.—It is his intention to print the Report under your superintendence at Agra, and to send copies of it, when issued, to the several Superintending Surgeons, under this Government for circulation to the Military and Civil Medical Officers under them, with a request that they will obtain Reports from those Officers, and submit them, with their own remarks, on the commencement, characteristics, and progress, with the treatment and decline of the Disease in their several localities.

4th.—A number of copies will also be forwarded to the Chief Commissioner in the Punjab, with a request that he will, if he should see fit, obtain similar Reports from the Medical Officers in all branches of the Service, under his authority, and communicate them for the information of this Government, or otherwise give publicity to them as he may deem most suitable.

5th.—You are requested to take measures accordingly for having the Report printed with the least practicable delay, and you will have the goodness to inform me when the printed copies may be expected to be ready for distribution, in order that a distribution list may be supplied to the Superintendent, Secundra Press from this office.

6th.—The devoted care and exertion shewn by yourself, Dr. Walker, and Dr. Farquhar, in attendance upon the prisoners, and on the sick of all classes, during the prevalence of the fatal Malady were such as was to be looked for from the high professional and personal characters of yourself and of those Officers, and entitle you and them to the most cordial applause and gratitude of the Government.

7th.—The Native Doctor Khoshallee and the four Students of the Medical School mentioned in your 5th paragraph may probably merit some special reward for their good conduct. Your suggestions are invited on this point.

I have the honor to be,

Sir,

Your most obedient servant,

C. B. THORNHILL,

Offg. Secy. to Government, N. W. P.

HEAD-QUARTERS, NYNEE TAL: }
The 20th September 1856. }

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